

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claims 1-17 (Canceled).

18. (Currently Amended) A molecular identification assembly, comprising:
a reactive molecule;
a carbon nanotube attached to the reactive molecule; and
a chemical modifier attached to a portion of the carbon nanotube separate from the reactive molecule, wherein the chemical modifier is a molecule that is chemically distinct from the reactive molecule, the chemical modifier altering the friction coefficient of the carbon nanotube;
wherein the molecular identification assembly is suspendable in a liquid.
19. (Original) The molecular identification assembly of claim 18, wherein the reactive molecule includes an assay molecule.
20. Canceled.
21. (Original) The molecular identification assembly of claim 18, wherein the chemical modifier includes a carboxylic acid group.
22. (Original) The molecular identification assembly of claim 18, wherein the friction coefficient is increased.
23. (Original) The molecular identification assembly of claim 18, wherein the friction coefficient is decreased.

Claims 24-31 (Canceled).

32. (New) The molecular identification assembly of claim 18, wherein the carbon nanotube attached to the chemical modifier has an exterior surface and contains a plurality of chemical modifiers attached at different locations to the exterior surface.

33. (New) A molecular identification assembly comprising:
a reactive molecule; and
two or more fullerene molecules attached to the reactive molecule;
wherein the fullerene molecules have a plurality of chemical modifiers
attached to a portion of the fullerene molecules separate from a site at which the
reactive molecule attaches to the fullerene molecule, the chemical modifiers
altering the friction coefficient of the fullerene molecule; and
wherein the molecular identification assembly is suspendable in a liquid.
34. (New) The molecular identification assembly of claim 33, wherein the
chemical modifier is a molecule that is chemically distinct from the reactive molecule.
35. (New) The molecular identification assembly of claim 33, wherein the
friction coefficient is increased.
36. (New) The molecular identification assembly of claim 33, wherein the
friction coefficient is decreased.
37. (New) The molecular identification assembly of claim 33, wherein the
fullerene molecules are carbon nanotubes.
38. (New) The molecular identification assembly of claim 37, wherein the
carbon nanotube attached to the chemical modifier has an exterior surface and contains
a plurality of chemical modifiers attached at different locations to the exterior surface.
39. (New) A molecular identification assembly comprising:
a reactive molecule capable of detecting the presence of a DNA sequence
in a sample through hybridization to the DNA sequence;
a fullerene molecule attached to the reactive molecule; and
wherein the fullerene molecule has a plurality of chemical modifiers
attached to a portion of the fullerene molecule separate from a site at which the
reactive molecule attaches to the fullerene molecule, the chemical modifiers
altering the friction coefficient of the fullerene molecule.

40. (New) The molecular identification assembly of claim 39, wherein the chemical modifier is a molecule that is chemically distinct from the reactive molecule.

41. (New) The molecular identification assembly of claim 39, wherein the reactive molecule has a plurality of attached fullerene molecules.

42. (New) The molecular identification assembly of claim 39 or 41, wherein the fullerene molecule is a carbon nanotube.

43. (New) The molecular identification assembly of claim 39, wherein the friction coefficient is increased.

44. (New) The molecular identification assembly of claim 39, wherein the friction coefficient is decreased.

45. (New) A mixture of two or more different molecular identification assemblies of claim 39, wherein each of the two or more different molecular identification assemblies are distinguishable from each other through having a set comprising a plurality of attached fullerene molecules wherein each set of fullerene molecules is distinguishable from another set of fullerene molecules because of size, shape, or coefficient of friction differences between the sets of fullerene molecules.